Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A temperature sensing device comprising:

a first temperature sensor configured for mounting to a structure at a first distance relative to the structure;

a second temperature sensor configured for mounting to the structure at a second distance relative to the structure; and

a processor coupled to the first and second temperature sensors and configured to estimate a third temperature based on the first and second temperatures and the distance separating the first and second temperature sensors.

2. (Original) The temperature sensing device of claim 1, wherein the first and second temperature sensors are mounted in a housing.

3. (Original) The temperature sensing device of claim 1, wherein the second distance is greater than the first distance.

4. (Original) The temperature sensing device of claim 1, wherein the third temperature is an estimate of a temperature at a third distance from the structure, the third distance being greater than the first and second distances.

5. (Original) A method of sensing temperatures in a room, comprising:

mounting a first temperature sensor to a structure in the room at a first distance relative to the structure;

mounting a second temperature sensor to the structure at a second distance relative to the structure;

measuring a first temperature with the first temperature sensor;

measuring a second temperature with the second temperature sensor; and

estimating a third temperature from the first and second temperatures.

6. (Original) The method of claim 5, further including coupling a processor to the first and second temperature sensors, and wherein the third temperature is calculated by the processor.

7. (Original) The method of claim 5, wherein the first and second temperature sensors are mounted in a housing.

8. (Original) The method of claim 5, wherein the processor is mounted in the housing.

9. (Original) The method of claim 5, wherein the second distance is greater than the first distance.

10. (Original) The method of claim 5, wherein the third temperature is an estimate of a temperature at a third distance from the structure, the third distance being greater than the first and second distances.

11. (Original) A temperature sensing device, comprising:

a housing;

a first temperature sensor mounted within the housing and configured to sense a first temperature;

a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor, and configured to sense a second temperature; and

a processor coupled to the first temperature sensor and the second temperature sensor and configured to estimate a third temperature using the first temperature and the second temperature.

12. (Original) The temperature sensing device of claim 11, wherein the first temperature sensor is positioned proximate to a first surface of the housing and the second temperature sensor is positioned proximate to a second surface of the housing spaced apart from the first surface.

13. (Original) The temperature sensing device of claim 12, wherein the housing is configured to be mounted to a structure of a building such that the first surface is adjacent to a surface of the structure of the building.

14. (Original) The temperature sensing device of claim 13, wherein the first temperature is the temperature at or near the surface of the structure of the building.

15. (Original) The temperature sensing device of claim 14, wherein the structure of the building is a wall.

16. (Original) The temperature sensing device of claim 15, wherein the third temperature is an air temperature of a room including the wall.

17. (Original) The temperature sensing device of claim 11, wherein the third temperature is estimated from the first temperature and the second temperature using an extrapolation function.

18. (Original) The temperature sensing device of claim 17, wherein the extrapolation function is a linear extrapolation function.

19. (Original) The temperature sensing device of claim 17, wherein the extrapolation function is a non-linear extrapolation function.

20. (Original) The temperature sensing device of claim 17, wherein the extrapolation function includes a correction factor.

21. (Original) The temperature sensing device of claim 20, wherein the correction factor is based on estimated environmental or structural conditions of a building.

22. (Original) The temperature sensing device of claim 11, wherein the temperature sensing device is a thermostat configured to be used with a climate control system.

23. (Original) The temperature sensing device of claim 22, wherein the climate control system is a heating, ventilating, and air conditioning system.

24. (Original) The temperature sensing device of claim 11, wherein the processor is mounted within the housing.

25. (Original) A method comprising:

measuring a first temperature using a first temperature sensor mounted within a housing;

measuring a second temperature using a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor; and

estimating a third temperature from the first temperature and the second temperature using a processor coupled to the first temperature sensor and the second temperature sensor.

26. (Original) The method of claim 25, wherein the third temperature is estimated from the first temperature and the second temperature using an extrapolation function.

27. (Original) The method of claim 26, wherein the extrapolation function is a linear extrapolation function.

28. (Original) The method of claim 26, wherein the extrapolation function is a non-linear extrapolation function.

29. (Original) The method of claim 26, wherein the extrapolation function includes a correction factor.

30. (Original) The method of claim 29, wherein the correction factor is based on estimated environmental or structural conditions of a building.

31. (Original) The method of claim 30, wherein the first temperature sensor is positioned proximate to a first surface of the housing and the second temperature sensor is positioned proximate to a second surface of the housing.

32. (Original) The method of claim 31, wherein the housing is configured to be mounted to a structure of a building such that the first surface is exposed to a surface of the structure of the building.

33. (Original) The method of claim 32, wherein the first temperature is the temperature at or near the surface of the structure of the building.

34. (Original) The method of claim 33, wherein the structure of the building is a wall.

35. (Original) The method of claim 34, wherein the third temperature is an air temperature of a room including the wall.

36. (Original) A temperature sensing device, comprising:

a housing;

a first temperature sensing means mounted within the housing and configured to sense a first temperature;

a second temperature sensing means mounted within the housing and spaced apart from the first temperature sensing means, and configured to sense a second temperature; and

means coupled to the first temperature sensor and the second temperature sensor for estimating a third temperature from the first temperature and the second temperature.

37. (Original) The temperature sensing device of claim 36, the first temperature sensor is positioned proximate to a first surface of the housing and the second temperature sensor is positioned proximate to a second surface of the housing.

38. (Original) The temperature sensing device of claim 37, wherein the housing is configured to be mounted to a structure of a building such that the first surface is adjacent to a surface of the structure of the building.

39. (Original) The temperature sensing device of claim 38, wherein the first temperature is the temperature of the surface of the structure of the building.

40. (Original) The temperature sensing device of claim 39, wherein the structure of the building is a wall.

41. (Original) The temperature sensing device of claim 36, wherein the third temperature is an air temperature of a room including the wall.

42. (Original) The temperature sensing device of claim 36, wherein the temperature sensing device is a thermostat configured to be used with a climate control system.

43. (Currently Amended) The temperature sensing device of claim ~~43~~ 42, wherein the climate control system is a heating, ventilating, and air conditioning system.

44. (Original) A temperature sensing device comprising:

a first temperature sensor configured to sense a first temperature;

a second temperature sensor spaced apart from the first temperature sensor, and configured to sense a second temperature; and

a processor coupled to the first temperature sensor and the second temperature sensor and configured to:

estimate a heat transfer rate associated with at least one of the first temperature and the second temperature; and

determine an air temperature set point based on the heat transfer rate.